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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/527,699

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Shu Kobayashi

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EXAMINER

LEE, RIP A

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/527,699	Applicant(s) KOBAYASHI ET AL.	
	Examiner RIP A. LEE	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-20 is/are rejected.
- 7) ☒ Claim(s) 2, 4, 6, 10, 12 and 14-16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action follows a request for continued examination (RCE) under 37 § C.F.R. 1.114, filed on January 26, 2009. Claims 1-7 and 9-20 are pending.

Claim Objections

1. Claim 2 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 2 is drawn to a palladium catalyst derived from Pd(0). Since claim 1 defines a palladium species that is Pd(0), the subject of claim 2 fails to limit further the subject of claim 1.
2. Claim 4 is objected to because of the following informalities: In line 5 and 9, replace “and” with “or” unless the claim is drawn to a (co)polymer having all three monomer units (1), (2), and (3). According to MPEP 2173.05(h), when materials are so related as to constitute a proper Markush group, they may be recited as, “wherein R is a material selected from the group consisting of A, B, C, and D,” or “wherein R is selected from A, B, C, or D.”
3. Claim 4 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 4, in parsed terms, defines the crosslinked organic polymer as a polymer of at least one monomer selected from (1), (2), [or] (3), or as a polymer of at least one monomer selected from (1), (2), [or] (3), and at least one monomer [6]. Claim 1 recites the same limitations (“...and optionally 2) a monomer having ...”), and therefore, claim 4 does not limit further the subject of claim 1.

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4. Claim 6 is objected to because of the following informalities: The acyloxyl group (RC(=O)O-) is not a crosslinkable functional group defined by formulas [1], [2], [4], or [5].
5. Claim 10 is objected to because of the following informalities: In line 3, replace “and” with “or.”
6. Claim 10 is objected to because of the following informalities: In line 3, replace “and” with “or.”
7. Claim 12 is objected to because of the following informalities: It is not clear whether the composition necessarily contains the claimed feature since claim 4, from which claim 12 depends, is drawn to a selection of monomers.
8. Claims 14-16 are objected to because of the following informalities: Claims recite the limitation, “having at least one oxygen atom.” This limitation appears redundant since both types of monomer necessarily contain at least one such oxygen atom. It is not clear what embodiment is being defined by the claim language.
9. Claim 15 is objected to because of the following informalities: It is not clear whether the composition necessarily contains the claimed feature since the monomers of claim 14, from which claim 15 depends, are presented in the alternative form.

Appropriate corrections are required.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

11. Claim 20 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 20 is drawn to a process of utilizing the claimed catalyst composition for oxidizing an alcohol to its corresponding ketone, that is, utilizing the claimed catalyst for oxidation of secondary alcohols. The relevant portion of the disclosure may be located on page 66. The example describes oxidation of a primary alcohol, cinnamyl alcohol, to the corresponding aldehyde, cinnamaldehyde. The specification is devoid of teaching of oxidation of secondary alcohols to ketones, as claimed. Therefore, it is deemed that claim 20 contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention

12. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. Claims 1-7 and 9-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. There is no antecedent basis for the term “the catalyst” in line 2 of claim 1 or for the term “the palladium catalyst” in claim 2. Dependent claims are subsumed under the rejection.

Claim Rejections - 35 USC § 102

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

17. Claims 1-4, 6, 7, 9, 10, 12, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by An *et al.* (*Polymers for Advanced Technologies*, 1996, 7, 652-656).

An *et al.* discloses a catalyst composition comprising zero-valent palladium cluster physically carried on crosslinked SiO₂-polyvinyl alcohol. The monomer that comprises polyvinyl alcohol meets the structural features of monomer [5]. Crosslinking is achieved by reaction with glutaraldehyde; polymer chains linked by glutaraldehyde are separated by a span of five carbon atoms.

The catalyst of An *et al.* is substantially the same as that recited in the instant claims, namely, a catalyst comprising crosslinked polymer and palladium catalyst physically carried on said crosslinked polymer and wherein the polymer is obtained by polymerizing a monomer of type (3), represented by structure [5]. The difference between the catalyst in An *et al.* and that recited in the instant claims lies in the method of preparation of the catalyst. In the prior art, palladium is physically carried on crosslinked polymer, while in instant claims, crosslinking occurs appears to occur after the step of introduction of Pd(0) to the composition. However, it is well settled that where product by process claims are rejected over a prior art product that appears to be the same, the burden is shifted to the Applicant to establish an unobviousness difference, even if the production processes are different. Furthermore, the patentability of a product claim rests on the product formed, not on the method by which it was produced. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

18. Claims 1-7, 9, 10, 12 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Charmot *et al.* (U.S. 4,943,482).

Charmot *et al.* discloses particles of crosslinked polymer metallized on the surface with at least one zero valent metal. The polymer comprises 20-70 wt % of at least one noncomplexing monoethylenic monomer and up to 10 wt % of at least one ethylenically unsaturated carboxylic acid (claims 1-4). The ethylenically unsaturated carboxylic acid is (meth)acrylic acid (col. 2, line 11). Crosslinkable monomers include divinyl benzene (col. 2, lines 25-32); polymer chains linked by divinyl benzene are separated by a span of four carbon atoms. An exemplary metal present on the surface of the polymer particle is palladium (col. 2, line 46). Surface metallization is achieved by reduction of Pd(II) salt to Pd(0); see example 2.

The catalyst of Charmot *et al.* is substantially the same as that recited in the instant claims, namely, a catalyst comprising crosslinked polymer and palladium catalyst physically carried on said crosslinked polymer and wherein the polymer is obtained by polymerizing a monomer of type (2), represented by structure [4]. The difference between the catalyst in Charmot *et al.* and that recited in the instant claims lies in the method of preparation of the

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catalyst. In the prior art, palladium is physically carried on crosslinked polymer, while in instant claims, crosslinking occurs appears to occur after the step of introduction of Pd(0) to the composition. However, it is well settled that where product by process claims are rejected over a prior art product that appears to be the same, the burden is shifted to the Applicant to establish an unobviousness difference, even if the production processes are different. Furthermore, the patentability of a product claim rests on the product formed, not on the method by which it was produced. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

19. Claims 1-7 and 9-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto *et al.* (U.S. 6,716,792/U.S. 2002/0045708; patent relied upon for indexing).

Okamoto *et al.* discloses a metallic Lewis acid composition comprising the metallic Lewis acid carried on a crosslinked polymer formed by mixing non-crosslinked polymer with metal compound and then crosslinking the polymer (abstract, claims 1-10 and 14-20). Copolymers of vinyl glycidyl ether, styrene, and acrylic acid and vinylbenzyl glycidyl ether, (meth)acrylic acid, and styrene are exemplary (see structure bridging columns 19 and 20, claims 5-8). The metallic Lewis acid includes palladium which is bound to an anion atom such as halogen, sulfonic acid, cyanide, *i.e.*, as Pd(II), or an atom group such as ammonium and carbonyl, *i.e.*, as Pd(0); see col. 21, lines 15-22. The composition, used as an oxidation catalyst, shows excellent solvent and heat resistance, and it is not degraded in activity after repeated use (see examples 1-4). Although working examples show use of OsO₄ as the metallic Lewis acid, one of ordinary skill in the art would have found it obvious to make a supported catalyst comprising palladium since these are disclosed as suitable for making oxidation catalysts of the invention. Okamoto *et al.* does not direct the reader to use Pd(0) *per se*, however, the person of ordinary skill in the art would have ultimately made the claimed catalyst composition, namely a Pd(0) physically carried on crosslinked polymer, since oxidation with Pd(II) will result concomitantly with reduction of Pd(II) to Pd(0).

20. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto *et al.* (U.S. 6,716,792/U.S. 2002/0045708) in view of Kobayashi (JP 2002-253972).

The discussion of the disclosures of the prior art of Okamoto *et al.* from paragraph 17 of this office action is incorporated here by reference. Okamoto *et al.* does not disclose synthetic utility of palladium based catalysts. Kobayashi discloses polymer encapsulated palladium catalysts prepared by homogenizing polymer and a palladium (0) complex much in the same manner as that described in the invention of Okamoto *et al.* These palladium catalysts are especially useful for effecting allylic substitution using allyl carbonate (equation F). The combination of references would have suggested to one having ordinary skill in the art that the palladium catalyst of Okamoto *et al.* is well suited for catalyzing allylic substitution, and one having ordinary skill in the art would have been motivated to use the catalyst of Okamoto *et al.* for this purpose because it may be used repeatedly without losses in activity. Therefore, it would have been obvious to one having ordinary skill in the art to use the catalyst of Okamoto *et al.* for carrying out allylic substitution, and since Kobayashi teaches use of palladium catalysts for this purpose, one having ordinary skill in the art would have expected the catalyst of Okamoto *et al.* to work with a high degree of success. It also would have been obvious to one having ordinary skill in the art to use a palladium phosphine complex, as per Kobayashi, in lieu of a palladium carbonyl complex suggested in Okamoto *et al.* because experimental results in Kobayahsi indicate that the phoshpine complex is obtained readily and that phosphine ligands are sufficiently labile to yield free Pd(0) (page 3412, paragraph 3).

21. Claims 1-7, 9, 10, 12-15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tieke *et al.* (U.S. 5,045,436) in view of Cluff *et al.* (U.S. 4,548,963).

Tieke *et al.* teaches a composition containing a dibenzalacetone palladium (0) complex and at least one organic polymer. The composition is prepared by dissolving polymer or crosslinkable precursor thereof in combination with a suitable crosslinking agent, and the palladium complex, then effecting curing (col. 3, lines 31-36, col. 5, lines 45-51, claim 1). Upon heating, the ligands of the palladium complex are decomposed, resulting in deposition of elemental palladium on the polymer (col. 7, lines 5-15). Polymer suitable for use include

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crosslinkable acrylic resins derived from substituted acrylic esters, such as polyacrylates containing epoxy groups (col. 4, lines 36-38). Tieke *et al.* does not describe such a polymer in further detail. Crosslinkable acrylic resins containing epoxy groups to effect crosslinking are well-established in the art, as elucidated in the prior art of Cluff *et al.* The secondary reference is drawn to preparation of crosslinkable acrylic resins from about 10-40 wt % of a hydroxy alkyl ester of (meth)acrylic acid, about 10-40 wt % of glycidyl (meth)acrylate, and from about 20-80 wt % of at least one ethylenically unsaturated monomer copolymerizable therewith (claim 1 and example 1). The person of ordinary skill in the art would have recognized polymers of Cuff *et al.* belonging to the class of polymer taught by Tieke *et al.* since these polymer are polyacrylate possessing the requisite epoxy functional groups for crosslinking, and the combination of references would have suggested use of such polymer to make supported palladium compositions of Tieke *et al.* Therefore, it would have been obvious to one having ordinary skill in the art to use the crosslinkable acrylic polymer having epoxide groups, as disclosed in Cuff *et al.*, as the polymer component for making compositions of Tieke *et al.* Since crosslinkable acrylic polymers have been shown to be facile to prepare, the person of ordinary skill in the art would have expected the combination of teachings to work with a reasonable expectation of success.

22. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tieke *et al.* in view of Cluff *et al.*, and further in view of Kobayashi (JP 2002-253972).

Tieke *et al.* teaches use of palladium as oxidant for redox reactions, but the reference does not disclose further synthetic utility of palladium based catalysts. Kobayashi discloses polymer encapsulated palladium catalysts prepared by homogenizing polymer and a palladium (0) complex much in the same manner as that described in the invention of Tieke *et al.* These palladium catalysts are especially useful for effecting allylic substitution using allyl carbonate (equation F). The combination of references would have suggested to one having ordinary skill in the art that the palladium composition of Tieke *et al.* is well suited for catalyzing allylic substitution, and one having ordinary skill in the art would have been motivated to use the catalyst of Tieke *et al.* for this purpose in order to discover optimal reactivity and yield. Therefore, it would have been obvious to one having ordinary skill in the art to use the composition of Tieke *et al.* for carrying out allylic substitution, and since Kobayashi teaches use

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of palladium catalysts for this purpose, one having ordinary skill in the art would have expected the palladium composition of Tieke *et al.* to work with a high degree of success. It also would have been obvious to one having ordinary skill in the art to use a palladium phosphine complex, as per Kobayashi, in lieu of the palladium dba complex of Tieke *et al.* because experimental results in Kobayashi indicate that the phosphine complex is obtained readily and that phosphine ligands are also sufficiently labile to yield free Pd(0) (page 3412, paragraph 3). The person of ordinary skill in the art would have expected both species of palladium (0) precursors to be used interchangeably for making elemental palladium.

23. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tieke *et al.* in view of Cluff *et al.*, and further in view of Kluytmans *et al.* (*Catalysis Today*, 2000, 57, 143-155).

Tieke *et al.* teaches use of palladium as oxidant for redox reactions, but the reference does not disclose further synthetic utility of palladium based catalysts. Kluytmans *et al.* discloses use of supported palladium catalyst for carrying out oxidation of secondary alcohols to their corresponding ketones (Figure 1). The combination of references would have suggested to one having ordinary skill in the art that the palladium composition of Tieke *et al.* is well suited for catalyzing oxidation of alcohols as shown in Kluytmans *et al.*, and one having ordinary skill in the art would have been motivated to use the catalyst of Tieke *et al.* for this purpose in order to discover optimal reactivity and yield. Therefore, it would have been obvious to one having ordinary skill in the art to use the composition of Tieke *et al.* for carrying out oxidation of alcohols to make ketones, and since Kluytmans *et al.* teaches use of palladium catalysts for this purpose, one having ordinary skill in the art would have expected the palladium composition of Tieke *et al.* to work with a high degree of success.

Double Patenting

24. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

25. Claims 1-7, 9, 10, 12, 13 and 17-20 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, and 5-12 of copending Application No. 10/590,206. Although the conflicting claims are not identical, they are not patentably distinct from each other. Both claims are drawn to substantially the same catalyst comprising zero-valent palladium physically carried on crosslinked polymer derived from a monomer unit containing epoxide moiety (compare [1] and [2] of instant claims with formula 2 or formula 3 of copending claims) and one further monomer comprising a hydroxyl group. Metal is carried on polymer followed by crosslinking. Catalysts are utilized for allylic substitution and oxidation reactions. The catalyst of the copending application is prepared from same zero-valent palladium precursor recited in instant claim 18. Applicant’s attention is drawn to MPEP § 804 where it is disclosed that “the specification can always be used as a dictionary to learn the meaning of a term in a patent claim.” *In re Boylan*, 392 F. 2d 1017, 157 USPQ 370 (CCPA 1986). Further, those portions of the specification which provide support for the patent

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claims may also be examined and considered when addressing the issue of whether a claim in an application defines an obvious variation of an invention claimed in the patent. *In re Vogel*, 422 F.2d 438, 164 USPQ 619,622 (CCPA 1970).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented

26. Claims are directed to an invention not patentably distinct from claims of commonly assigned 10/590,206 for the same reasons elucidated in the previous paragraph.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300). Commonly assigned 10/590,206, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were *commonly owned at the time the invention in this application was made*, or name the prior inventor of the conflicting subject matter.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications pending on or after December 10, 2004.

27. Claims 1-4, 6, 7, 9, 10, 11, 13-15, 17 and 18 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-15 of copending Application No. 10/592,138. Although the conflicting claims are not identical, they are not patentably distinct from each other. Both claims are drawn to substantially the same catalyst comprising zero-valent palladium carried on crosslinked polymer derived from a monomer unit containing epoxide moiety (compare [1] and [2] of instant claims with formula (1) and (1a) of copending claims). Metal is carried on polymer is subjected to crosslinking, as indicated in copending claim 2. The catalyst of the copending application is prepared from same

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zero-valent palladium precursor recited in instant claim 18. Applicant's attention is drawn to MPEP § 804 where it is disclosed that "the specification can always be used as a dictionary to learn the meaning of a term in a patent claim." *In re Boylan*, 392 F. 2d 1017, 157 USPQ 370 (CCPA 1986). Further, those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in an application defines an obvious variation of an invention claimed in the patent. *In re Vogel*, 422 F.2d 438, 164 USPQ 619,622 (CCPA 1970).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

28. Claims are directed to an invention not patentably distinct from claims of commonly assigned 10/592,138 for the same reasons elucidated in the previous paragraph.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300). Commonly assigned 10/592,138, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were *commonly owned at the time the invention in this application was made*, or name the prior inventor of the conflicting subject matter.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications pending on or after December 10, 2004.

Response to Arguments

29. The rejection of claims over Kirk *et al.* (U.S. 6,743,873), set forth in paragraphs 4 and 5 of the final office action dated May 30, 2008, has been overcome by amendment. Kirk *et al.* relates to deposition of Pd(II) based olefin polymerization catalyst. Instant claims require catalysts containing Pd(0). Accordingly, the person of skill in the art would not have found it obvious to modify the invention of the prior art and thereby make the claimed catalyst.

Applicant traverses the rejection of claims over Charmot *et al.* (U.S. 4,943,482). Traversal is based on the fact that method of preparation of claimed catalyst and that cited in the prior art are different. Applicant points to the fact that the palladium catalyst of Charmot *et al.* is strongly influenced by the interaction of the functional group due to carrying the palladium catalyst directly on the crosslinked polymer having a functional group. Applicant submits that such catalyst can not effect substitution at the allylic position. Applicant's arguments have been considered fully, but they are not persuasive. The metallic palladium physically carried on crosslinked polymer of the instant invention would be subject to the same interaction between functional group and noble metal surface, and therefore, it is not clear from Applicant's statement how the two materials are different. Any physical and/or comparison between the two catalysts to establish cogently any differences between the claimed invention and that of the prior art has not been furnished to date. It is noted that arguments of counsel can not take the place of evidence in the record. *In re Schulze*, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965); *In re Geisler*, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997). Applicant would refer to experiments described in the declaration filed on January 2, 2008. It is noted, however, that these experiments do not reflect the catalyst of Charmot *et al.*, and therefore, any correlation made based on the declaration is untenable.

Applicant traverses the rejection of claims under 35 U.S.C. 102 over Okamoto *et al.* (U.S. 6,716,792/U.S. 2002/0045708). The rejection has been withdrawn in view of claim amendment. The reference is not anticipatory in that there is no clear teaching of catalyst containing Pd(0). New grounds of rejection based on obviousness have been presented above.

Corresponding rejection of claims over Okamoto *et al.* in view of Kobayahsi (JP 2002-253972) has been maintained.

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The rejection of claim 20 under 35 U.S.C. 103(a) as being unpatentable over Okamoto *et al.* (U.S. 2002/0045708) in view of Kaneda *et al.* (JP 2002-275116) has been overcome by filing of certified translation of foreign priority papers in accordance with 37 CFR 1.55.

The rejection of claims 1-10 and 12-19 35 U.S.C. 102(a) as being anticipated by Akiyama *et al.* (*J. Am. Chem. Soc.*, **2003**, 125, 3412-3413) has been overcome by filing of certified translation of foreign priority papers in accordance with 37 CFR 1.55.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rip A. Lee whose telephone number is (571)272-1104. The examiner can be reached on Monday through Friday from 9:00 AM - 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached at (571)272-1114. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <<http://pair-direct.uspto.gov>>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

/Rip A. Lee/
Examiner, Art Unit 1796

May 5, 2009